

# Virtual Fence

## A location specific GPS mode for VERTEX Plus collars

The Virtual Fence option is the basic tool for interactive collar programming and usable with all VERTEX Plus collars. It allows you to define areas of special interest such as wildlife reserves, certain vegetation areas or home ranges of other animals on which you want to have a particular focus. It opens possibilities for flexible GPS schedules which can record locations where they count the most. In addition it is possible to trigger a remote alarm once the animal leaves/enters a designed area. A feature which can also be used in preventive measures in human-wildlife conflicts.

### ...how it works...

You create a Virtual Fence by defining the corner points of the area of interest. This map is stored in the collar memory. Secondly you are able to program a second GPS schedule (optional) and decide if you want to add potential event messages (Iridium, Globalstar & GSM).

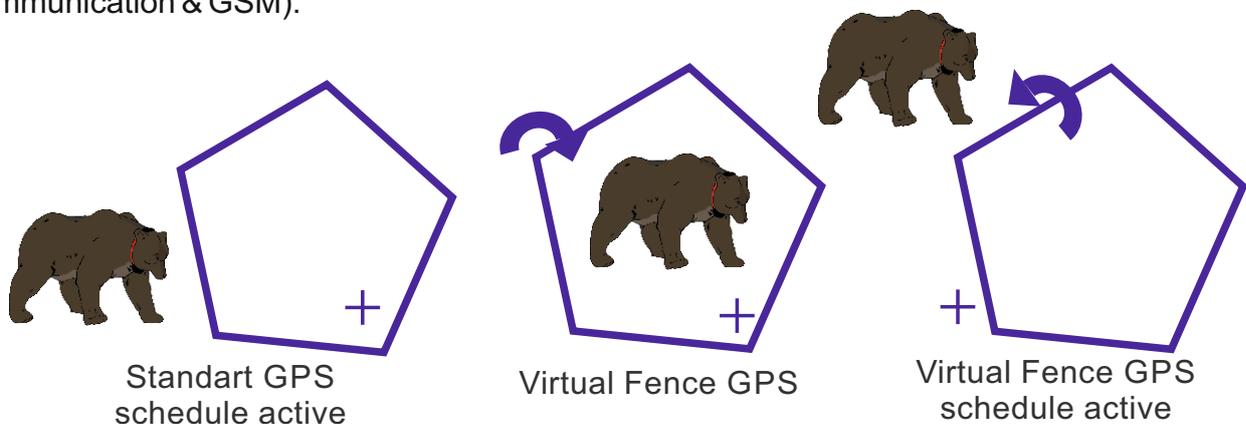
By setting a reference point, you define if the Virtual Fence schedule is either active when the animal is inside the Virtual Fence or while the animal is outside. You are also free to generate one or several polygons and create a complex observation map of your animals habitat.

With each GPS position, the collar checks if it is inside or outside the Virtual Fence and changes the GPS schedule and sends a message if applicable.

Depending on your communication settings you can change the Virtual Fence settings remotely (UHF Handheld Terminal and/or Iridium satellite communication & GSM).



Google Maps Image



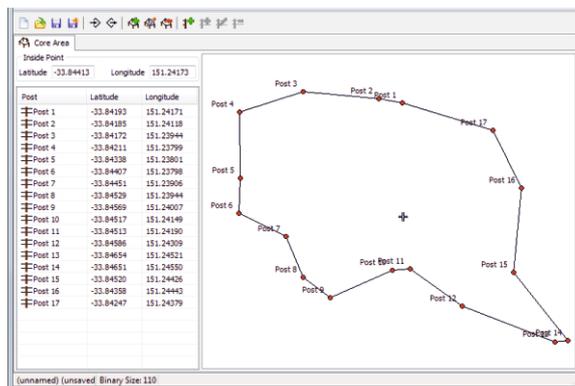
**GPS Collars made in Germany since 2000**

# Creating a Virtual Fence

The easiest way to create a Virtual Fence map is to use Google Earth. Simply draw a polygon by setting the corner points, save it as a KML file and import to GPS Plus X.

There is a limit of 70 post for a Virtual Fence file and the upload using a Handheld and Iridium and GSM is also size restricted.

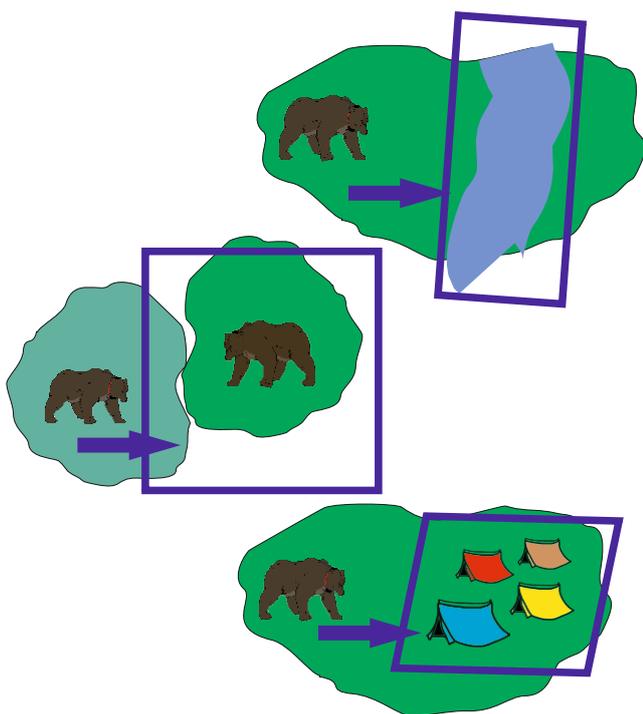
You can also create and alter Virtual Fence files (Google Earth polygone) in our GPS Plus X software directly.



Virtual Fence Polygon in GPS PLUS X

## Application Examples

- **Habitat Use:** Increase GPS positioning in areas with a different structure (e.g. thicket vs. open land) to get a finer picture of the habitat use.
- **Interaction:** Change GPS frequency if the animal enters the home range of a conspecific or prey species. Combined with our Proximity Sensor this will provide new insights into the interaction of individuals.
- **Human - Wildlife conflict:** Get a better picture of fine scale movements whenever your animal moves close to a settlement or life stock grazing ground. Trigger a remote alarm to send the alerts via e-mail and text messages (SMS).



## Interactive Collar Programming

The Virtual Fence is also part of the new Interactive Programming feature. To maximize data output you are able to program 4 GPS schedules which apply whenever certain triggers are present. The GPS schedule is changed according to triggers presents and hierarchic order.

- 1) Mortality GPS Schedule (highest priority)
- 2) Proximity GPS Schedule
- 3) **Virtual Fence GPS Schedule**
- 4) Activity GPS Schedule
- 5) Normal GPS Schedule (lowest priority)

All GPS schedules can contain several rules with set times every day or cyclic positioning intervals. Mortality, Proximity and Virtual Fence may also trigger alarm messages.

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